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8th Grade Math/Algebra

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Part I: Overview of Business

- John Deere was founded in 1837 and provides agricultural, construction, turf, and forestry equipment worldwide. Deere has approximately 56,500 employees worldwide.
- Along with equipment, John Deere plays a major role in enhancing user experience through intelligent design and technology.

Part II: Job Specifics

- This summer I worked in the area of Data Management and Analytics at John Deere ISG.
- Please visit <https://www.deere.com/en/technology-products/precision-ag-technology/> to learn more about precision ag technologies at John Deere.

Part III: Introduce the Problem

- The data analyst at ISG spend lots of time cleaning, managing, and analyzing the enormous amounts of data sent to their data servers every second a machine is in use.
- We will be using a public database of corn acres planted, harvested, and yield by county in Iowa. Starting with 2016 data, what conclusions can be drawn with this data? How can we show the data in user friendly way?
- What if we look at the last 5 years of data? How does this change the outlook on specific counties or corn production as a whole in the state of Iowa. Why might certain counties see better production? How might this information be helpful to a farmer in \_\_\_\_ county?

Part IV: Background

- There is not a single question or solution for which the answer is already assumed to be known. This is the beauty of the task. It may take some time “playing” with the information to really determine the questions and possible answers.
- Students need an introduction to creating graphs and charts in excel with pivot tables, and creating tables, graphs, and maps using Tableau’s free student version.
- Student need some basic statistics knowledge -- this would work best in a statistics class our in another class during a unit over descriptive statistics.

Part V: Business Solution

- The business would solve this problem in a similar fashion. They would first analyze the data descriptively to see what relationships could be further analyzed with a more scientific approach.

Part VI: Student Solutions

- I think students could come up with cool maps that show the distribution of the data over the counties of Iowa. They could create tableau dashboards to present their findings.
- A couple extra challenges would be to make their visualizations easy to navigate and understand for a business user, and to further research the question of “why” in what they are seeing.